

AMENDMENTS TO THE CLAIMS:

This listing will replace all prior version, and listing, of claims in the application.

LISTING OF THE CLAIMS:

1 1. (Currently Amended) A method of switching between physical interfaces on a device,
2 the method comprising:
3 switching from a first physical interface on the device to a second physical interface on the
4 device based on information in an interface redundancy group such that the second physical interface
5 assumes responsibilities of the first physical interface, the responsibilities comprising a one of
6 routing and bridging functions, routing and/or bridging functions and wherein the first physical
7 interface is operable for interfacing to a network and the second physical interface is operable for
8 interfacing to the network;
9 wherein the information in the interface redundancy group identifies the first physical
10 interface as a primary interface for the device and the second physical interface as a secondary
11 interface for the device.

1 2. (Original) The method of claim 1, wherein the interface redundancy group includes
2 information defining the primary interface for the device and one or more secondary interfaces for
3 the device.

1 3. (Original) The method of claim 1, further comprising detecting an event at the first
2 physical interface;
3 wherein switching is performed in response to the event.

1 4. (Original) The method of claim 3, wherein the event comprises a failure of the first
2 physical interface.

1 5. (Currently Amended) The method of claim 4, wherein the first physical interface is
2 associated with a driver and a signaling stack, and the failure of the first physical interface comprises
3 a failure of a one of the driver and the signaling stack ~~the driver and/or the signaling stack~~.

1 6. (Currently Amended) The method of claim 5, further comprising monitoring the driver
2 and the signaling stack in order to detect a failure of the one of the driver and the signaling stack
3 ~~driver and/or the signaling stack~~.

1 7. (Original) The method of claim 3, wherein the event comprises receipt of a slot failure
2 at the first physical interface.

1 8. (Original) The method of claim 1, wherein, prior to switching, the second physical
2 interface operates in a passive mode during which the second physical interface is dormant.

1 9. (Currently Amended) The method of claim 1, wherein, prior to switching, the second
2 physical interface operates in an active mode during which the second physical interface is
3 communicating over the a network.

1 10. (Original) The method of claim 1, wherein the first physical interface supports one or
2 more network layer interfaces.

1 11. (Original) The method of claim 10, wherein, following switching, the second physical
2 interface supports the one or more network layer interfaces formerly supported by the first physical
3 interface.

1 12. (Original) The method of claim 1, wherein the first and second physical interfaces
2 comprise asynchronous transfer mode (ATM) physical interfaces.

1 13. (Original) The method according to claim 1, wherein the first and second physical
2 interfaces are resident on a single network router.

1 14. (Canceled)

1 15. (Canceled)

1 16. (Original) The method of claim 1, wherein, following switching, the second physical
2 interface is configured in a same manner as the first physical interface was configured prior to
3 switching.

1 17. (Original) The method of claim 1, wherein the device includes a third physical interface,
2 and the interface redundancy group identifies the third physical interface as a tertiary interface; and
3 further comprising switching from the second physical interface to the third physical interface
4 in response to an event.

1 18. (Original) The method of claim 17, wherein, following switching, the third physical
2 interface assumes responsibilities of the first and second physical interfaces.

1 19. (Currently Amended) The method of claim 18, wherein the responsibilities include a
2 one of routing and bridging functions ~~routing and/or bridging functions~~.

1 20. Canceled.

1 21. (Canceled)

1 22. (Canceled)

1 23. (Currently Amended) A method of switching between asynchronous transfer mode
2 (ATM) physical interfaces on a device, the method comprising:

3 switching from a first ATM physical interface on the device to a second ATM physical
4 interface on the device based on information in an interface redundancy group such that the second
5 ATM physical interface assumes responsibilities of the first ATM physical interface, the
6 responsibilities comprising a one of routing and bridging functions, routing and/or bridging functions
7 and wherein the first ATM physical interface is operable for interfacing to a network and the second
8 ATM physical interface is operable for interfacing to the network; and

9 establishing ATM network layer interfaces over the second ATM physical interface that
10 correspond to ATM network layer interfaces that were established over the first ATM physical
11 interface prior to switching;

12 wherein the information in the interface redundancy group identifies the first ATM physical
13 interface as a primary interface for the device and the second ATM physical interface as a secondary
14 interface for the device.

1 24. (Original) The method of claim 23, wherein the interface redundancy group includes
2 information defining the primary interface for the device and one or more secondary interfaces for
3 the device.

1 25. (Original) The method of claim 23, further comprising detecting an event at the first
2 ATM physical interface;
3 wherein switching is performed in response to the event.

1 26. (Original) The method of claim 25, wherein the event comprises a failure of the first
2 ATM physical interface.

1 27. (Currently Amended) The method of claim 26, wherein the first ATM physical interface
2 is associated with a driver and a signaling stack, and the failure of the first ATM physical interface
3 comprises a failure of the one of the driver and signaling stack ~~driver and/or the signaling stack~~.

1 28. (Currently Amended) The method of claim 27, further comprising monitoring the driver
2 and the signaling stack in order to detect a failure of the one of the driver and signaling stack ~~driver~~
3 ~~and/or the signaling stack~~.

1 29. (Original) The method of claim 25, wherein the event comprises receipt of a slot failure
2 at the first ATM physical interface.

1 30. (Original) The method of claim 23, wherein, prior to switching, the second ATM
2 physical interface operates in a passive mode during which the second ATM physical interface is
3 dormant.

1 31. (Currently Amended) The method of claim 23, wherein, prior to switching, the second
2 ATM physical interface operates in an active mode during which the second ATM physical interface
3 is communicating over the a network.

1 32. (Currently Amended) A computer program stored on a computer-readable medium for
2 switching between physical interfaces on a device, the computer program comprising instructions
3 that cause a computer to:

4 switch from a first physical interface on the device to a second physical interface on the
5 device based on information in an interface redundancy group such that the second physical interface
6 assumes responsibilities of the first physical interface, the responsibilities comprising a one of
7 routing and bridging, routing and/or bridging functions and wherein the first physical interface is
8 operable for interfacing to a network and the second physical interface is operable for interfacing to
9 the network;

10 wherein the information in the interface redundancy group identifies the first physical
11 interface as a primary interface for the device and the second physical interface as a secondary
12 interface for the device.

1 33. (Original) The computer program of claim 32, wherein the interface redundancy group
2 includes information defining the primary interface for the device and one or more secondary
3 interfaces for the device.

34. (Original) The computer program of claim 32, further comprising instructions that cause
2 the computer to detect an event at the first physical interface;
3 wherein switching is performed in response to the event.

1 35. (Original) The computer program of claim 34, wherein the event comprises a failure of
2 the first physical interface.

1 36. (Currently Amended) The computer program of claim 35, wherein the first physical
2 interface is associated with a driver and a signaling stack, and the failure of the first physical
3 interface comprises a failure of a one of the driver and signaling stack ~~the driver and/or the signaling~~
4 ~~stack.~~

1 37. (Currently Amended) The computer program of claim 36, further comprising
2 instructions to cause the computer to monitor the driver and the signaling stack in order to detect a
3 failure of the one of the driver and signaling stack ~~driver and/or the signaling stack~~.

1 38. (Original) The computer program of claim 34, wherein the event comprises receipt of
2 a slot failure at the first physical interface.

1 39. (Original) The computer program of claim 32, wherein, prior to switching, the second
2 physical interface operates in a passive mode during which the second physical interface is dormant.

1 40. (Currently Amended) The computer program of claim 32, wherein, prior to switching,
2 the second physical interface operates in an active mode during which the second physical interface
3 is communicating over the a network.

1 41. (Original) The computer program of claim 32, wherein the first physical interface
2 supports one or more network layer interfaces.

1 42. (Original) The computer program of claim 41, wherein, following switching, the second
2 physical interface supports the one or more network layer interfaces formerly supported by the first
3 physical interface.

1 43. (Original) The computer program of claim 32, wherein the first and second physical
2 interfaces comprise asynchronous transfer mode (ATM) physical interfaces.

1 44. (Original) The computer program according to claim 32, wherein the first and second
2 physical interfaces are resident on a single network router.

1 45. (Canceled)

1 46. (Canceled)

1 47. (Original) The computer program of claim 32, wherein, following switching, the second
2 physical interface is configured in a same manner as the first physical interface was configured prior
3 to switching.

1 48. (Original) The computer program of claim 32, wherein the device includes a third
2 physical interface, and the interface redundancy group identifies the third physical interface as a
3 tertiary interface; and

4 further comprising instructions to cause the computer to switch from the second physical
5 interface to the third physical interface in response to an event.

1 49. (Original) The computer program of claim 48, wherein, following switching, the third
2 physical interface assumes responsibilities of the first and second physical interfaces.

1 50. (Currently Amended) The computer program of claim 49, wherein the responsibilities
2 include a one of routing and bridging functions ~~routing and/or bridging functions~~.

1 51. (Canceled)

1 52. (Canceled)

1 53. (Canceled)

1 54. (Currently Amended) A computer program stored on a computer-readable medium for
2 switching between asynchronous transfer mode (ATM) physical interfaces on a device, the computer
3 program comprising instructions that cause a computer to:

4 switch from a first ATM physical interface on the device to a second ATM physical interface
5 on the device based on information in an interface redundancy group such that the second ATM
6 physical interface assumes responsibilities of the first ATM physical interface, the responsibilities
7 comprising a one of routing and bridging functions, ~~routing and/or bridging functions~~ and wherein

8 the first ATM physical interface is operable for interfacing to a network and the second ATM
9 physical interface is operable for interfacing to the network; and

10 establish ATM network layer interfaces over the second ATM physical interface that
11 correspond to ATM network layer interfaces that were established over the first ATM physical
12 interface prior to switching;

13 wherein the information in the interface redundancy group identifies the first ATM
14 physical interface as a primary interface for the device and the second ATM physical interface
15 as a secondary interface for the device.

55. (Original) The computer program of claim 54, wherein the interface redundancy
2 group includes information defining the primary interface for the device and one or more
3 secondary interfaces for the device.

1 56. (Original) The computer program of claim 54, further comprising instructions that
2 cause the computer to detect an event at the first ATM physical interface;
3 wherein switching is performed in response to the event.

1 57. (Original) The computer program of claim 56, wherein the event comprises a failure
2 of the first ATM physical interface.

1 58. (Currently Amended) The computer program of claim 57, wherein the first ATM
2 physical interface is associated with a driver and a signaling stack, and the failure of the first
3 ATM physical interface comprises a failure of the one of the driver and signaling stack driver
4 ~~and/or the signaling stack.~~

1 59. (Currently Amended) The computer program of claim 58, further comprising
2 instructions that cause the computer to monitor the driver and the signaling stack in order to
3 detect a failure of the one of the driver and signaling stack driver ~~and/or the signaling stack.~~

2 60. (Original) The computer program of claim 56, wherein the event comprises receipt
of a slot failure at the first ATM physical interface.

1 61. (Original) The computer program of claim 54, wherein, prior to switching, the
2 second ATM physical interface operates in a passive mode during which the second ATM
3 physical interface is dormant.

1 62. (Currently Amended) The computer program of claim 54, wherein, prior to
2 switching, the second ATM physical interface operates in an active mode during which the
3 second ATM physical interface is communicating over the a network.

1 63. (Original) The computer program of claim 54, wherein the device includes a third
2 ATM physical interface, and the interface redundancy group identifies the third ATM physical
3 interface as a tertiary interface; and

4 further comprising instructions that cause the computer to switch from the second
physical interface to the third physical interface in response to an event.

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1 64. (Currently Amended) An apparatus which switches between physical interfaces,
2 the apparatus comprising:

3 a first physical interface operable for interfacing to a network;

4 a second physical interface operable for interfacing to the network; and

5 a processor which executes instructions to switch from the first physical interface to the
6 second physical interface based on information in an interface redundancy group such that the
7 second physical interface assumes responsibilities of the first physical interface, the
8 responsibilities comprising a one of routing and bridging functions ~~routing and/or bridging~~
9 ~~functions;~~

10 wherein the information in the interface redundancy group identifies the first physical
11 interface as a primary interface for the device and the second physical interface as a secondary
12 interface for the device.

1 65. (Original) The apparatus of claim 64, wherein the interface redundancy group
2 includes information defining the primary interface for the apparatus and one or more secondary
3 interfaces for the apparatus.

1 66. (Original) The apparatus of claim 64, wherein:
2 the processor executes instructions to detect an event at the first physical interface; and
3 switching is performed in response to the event.

1 67. (Original) The apparatus of claim 66, wherein the event comprises a failure of the
2 first physical interface.

1 68. (Currently Amended) The apparatus of claim 67, wherein the first physical interface
2 is associated with a driver and a signaling stack, and the failure of the first physical interface
3 comprises a failure of the one of the driver and signaling stack ~~driver and/or the signaling stack~~.

1 69. (Currently Amended) The apparatus of claim 68, wherein the processor executes
2 instructions to monitor the driver and the signaling stack in order to detect a failure of the one
3 of the driver and signaling stack ~~driver and/or the signaling stack~~.

1 70. (Original) The apparatus of claim 66, wherein the event comprises receipt of a slot
2 failure at the first physical interface.

1 71. (Original) The apparatus of claim 64, wherein, prior to switching, the second
2 physical interface operates in a passive mode during which the second physical interface is
3 dormant.

1 72. (Currently Amended) The apparatus of claim 64, wherein, prior to switching, the
2 second physical interface operates in an active mode during which the second physical interface
3 is communicating over the a network.

1 73. (Original) The apparatus of claim 64, wherein the first physical interface supports
2 one or more network layer interfaces.

1 74. (Original) The apparatus of claim 73, wherein, following switching, the second
2 physical interface supports the one or more network layer interfaces formerly supported by the
3 first physical interface.

1 75. (Original) The apparatus of claim 64, wherein the first and second physical
2 interfaces comprise asynchronous transfer mode (ATM) physical interfaces.

1 76. (Original) The apparatus of claim 64, which comprises a single network router.

1 77. (Canceled)

1 78. (Canceled)

1 79. (Original) The apparatus of claim 64, wherein, following switching, the second
2 physical interface is configured in a same manner as the first physical interface was configured
3 prior to switching.

1 80. (Original) The apparatus of claim 64, wherein:
2 the apparatus further comprises a third physical interface, and the interface redundancy
3 group identifies the third physical interface as a tertiary interface; and
4 the processor executes instructions to switch from the second physical interface to the
third physical interface in response to an event.

1 81. (Original) The apparatus of claim 80, wherein, following switching, the third
2 physical interface assumes responsibilities of the first and second physical interfaces.

1 82. (Currently Amended) The apparatus of claim 81, wherein the responsibilities
2 include a one of routing and bridging functions ~~routing and/or bridging functions~~.

1 83. (Canceled)

1 84. (Canceled)

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85. (Canceled)

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1 86. (Currently Amended) An apparatus which switches between asynchronous transfer
2 mode (ATM) physical interfaces, the apparatus comprising:

3 a first ATM physical interface operable for interfacing to a network;

4 a second ATM physical interface operable for interfacing to the network; and

5 a processor which executes instructions to:

6 switch from the first ATM physical interface to the second ATM physical
7 interface based on information in an interface redundancy group such that the second ATM
8 physical interface assumes responsibilities of the first ATM physical interface, the
9 responsibilities comprising a one of routing and bridging functions ~~routing and/or bridging~~
10 ~~functions~~; and

11 establish ATM network layer interfaces over the second ATM physical interface
12 that correspond to ATM network layer interfaces that were established over the first ATM
13 physical interface prior to switching;

14 wherein the information in the interface redundancy group identifies the first ATM
15 physical interface as a primary interface for the device and the second ATM physical interface
16 as a secondary interface for the device.

1 87. (Original) The apparatus of claim 86, wherein the interface redundancy group
2 includes information defining the primary interface for the apparatus and one or more secondary
3 interfaces for the apparatus.

4 88. (Original) The apparatus of claim 86, wherein:
5 the processor detects an event at the first ATM physical interface; and
6 switching is performed in response to the event.

1 89. (Original) The apparatus of claim 88, wherein the event comprises a failure of the
2 first ATM physical interface.

1 90. (Currently Amended) The apparatus of claim 89, wherein the first ATM physical
2 interface is associated with a driver and a signaling stack, and the failure of the first ATM
3 physical interface comprises a failure of the one of the driver and signaling stack driver and/or
4 the signaling stack.

1 91. (Currently Amended) The apparatus of claim 90, wherein the processor executes
2 instructions to monitor the driver and the signaling stack in order to detect a failure of the one
3 of the driver and signaling stack driver and/or the signaling stack.

1 92. (Original) The apparatus of claim 88, wherein the event comprises receipt of a slot
2 failure at the first ATM physical interface.

1 93. (Original) The apparatus of claim 86, wherein, prior to switching, the second ATM
2 physical interface operates in a passive mode during which the second ATM physical interface
3 is dormant.

1 94. (Currently Amended) The apparatus of claim 86, wherein, prior to switching, the
2 second ATM physical interface operates in an active mode during which the second ATM
3 physical interface is communicating over the a network.

1 95. (Previously Allowed, Currently Amended) A method of switching between
2 asynchronous transfer mode (ATM) physical interfaces on a device, the method comprising:
3 switching from a first ATM physical interface on the device to a second ATM physical
4 interface on the device based on information in an interface redundancy group, the first ATM
5 physical interface associated with a driver and a signaling stack;
6 establishing ATM network layer interfaces over the second ATM physical interface that
7 correspond to ATM network layer interfaces that were established over the first ATM physical
8 interface prior to switching, and wherein the information in the interface redundancy group
9 identifies the first ATM physical interface as a primary interface for the device and the second
10 ATM physical interface as a secondary interface for the device; and
11 detecting an event at the first ATM physical interface wherein the switching is performed
12 in response to the event, and the event comprises a failure of the first ATM physical interface,
13 and the failure of the first ATM physical interface comprises a failure of the one of the driver
14 and signaling stack ~~driver and/or signaling stack.~~

1 96. (Previously Allowed, Currently Amended) The method of claim 95, further
2 comprising monitoring the driver and the signaling stack in order to detect a failure of the one
3 of the driver and signaling stack ~~driver and/or the signaling stack.~~

1 97. (Previously Added) A method of switching between asynchronous transfer mode
2 (ATM) physical interfaces on a device, the method comprising:
3 switching from a first ATM physical interface on the device to a second ATM physical
4 interface on the device based on information in an interface redundancy group;
5 establishing ATM network layer interfaces over the second ATM physical interface that
6 correspond to ATM network layer interfaces that were established over the first ATM physical
7 interface prior to switching, and wherein the information in the interface redundancy group
8 identifies the first ATM physical interface as a primary interface for the device and the second
9 ATM physical interface as a secondary interface for the device; and
10 detecting an event at the first ATM physical interface and wherein the switching is
11 performed in response to the event, and the event comprises receipt of a slot failure at the first
12 ATM physical interface.

1 98. (Previously Allowed, Currently Amended) A computer program stored on a
2 computer-readable medium for switching between asynchronous transfer mode (ATM) physical
3 interfaces on a device, the computer program comprising instructions that cause a computer to:
4 switch from a first ATM physical interface on the device to a second ATM physical
5 interface on the device based on information in an interface redundancy group, the first ATM
6 physical interface associated with a driver and a signaling stack;
7 establish ATM network layer interfaces over the second ATM physical interface that
8 correspond to ATM network layer interfaces that were established over the first ATM physical
9 interface prior to switching, and wherein the information in the interface redundancy group
10 identifies the first ATM physical interface as a primary interface for the device and the second
11 ATM physical interface as a secondary interface for the device; and
12 detect an event at the first ATM physical interface and wherein the switching is
13 performed in response to the event, and the event comprises a failure of the first ATM physical
14 interface, and the failure of the first ATM physical interface comprises a failure of the one of
15 the driver and signaling stack ~~driver and/or the signaling stack.~~

1 99. (Previously Allowed, Currently Amended) The computer program of claim 98,
2 further comprising instructions that cause the computer to monitor the driver and the signaling
3 stack in order to detect a failure of the one of the driver and signaling stack ~~driver and/or the~~
4 ~~signaling stack.~~

1 100. (Previously Added) A computer program stored on a computer-readable medium
2 for switching between asynchronous transfer mode (ATM) physical interfaces on a device, the
3 computer program comprising instructions that cause a computer to:

4 switch from a first ATM physical interface on the device to a second ATM physical
5 interface on the device based on information in an interface redundancy group;

6 establish ATM network layer interfaces over the second ATM physical interface that
7 correspond to ATM network layer interfaces that were established over the first ATM physical
8 interface prior to switching, and wherein the information in the interface redundancy group
9 identifies the first ATM physical interface as a primary interface for the device and the second
10 ATM physical interface as a secondary interface for the device; and

11 detect an event at the first ATM physical interface and wherein the switching is
12 performed in response to the event, and the event comprises receipt of a slot failure at the first
13 ATM physical interface.

1 101. (Previously Allowed, Currently Amended) An apparatus which switches between
2 asynchronous transfer mode (ATM) physical interfaces, the apparatus comprising:

3 a first ATM physical interface;

4 a second ATM physical interface; and

5 a processor which executes instructions to:

6 switch from the first ATM physical interface to the second ATM physical
7 interface based on information in an interface redundancy group, the first ATM physical
8 interface associated with a driver and a signaling stack;;

9 establish ATM network layer interfaces over the second ATM physical interface
10 that correspond to ATM network layer interfaces that were established over the first ATM
11 physical interface prior to switching, and wherein the information in the interface redundancy
12 group identifies the first ATM physical interface as a primary interface for the device and the
13 second ATM physical interface as a secondary interface for the device; and

14 detect an event at the first ATM physical interface and wherein the switching is
15 performed in response to the event, and the event comprises a failure of the first ATM physical
16 interface, and the failure of the first ATM physical interface comprises a failure of the one of
17 the driver and signaling stack ~~driver and/or the signaling stack.~~

1 102. (Previously Allowed, Currently Amended) The apparatus of claim 101, wherein
2 the processor executes instructions to monitor the driver and the signaling stack in order to
3 detect a failure of the one of the driver and signaling stack ~~driver and/or the signaling stack~~.

1 103. (Previously Added) An apparatus which switches between asynchronous transfer
2 mode (ATM) physical interfaces, the apparatus comprising:

3 a first ATM physical interface;

4 a second ATM physical interface; and

5 a processor which executes instructions to:

6 switch from the first ATM physical interface to the second ATM physical
7 interface based on information in an interface redundancy group;

8 establish ATM network layer interfaces over the second ATM physical interface
9 that correspond to ATM network layer interfaces that were established over the first ATM
10 physical interface prior to switching, and wherein the information in the interface redundancy
11 group identifies the first ATM physical interface as a primary interface for the device and the
12 second ATM physical interface as a secondary interface for the device; and

13 detect an event at the first ATM physical interface and wherein the switching is
14 performed in response to the event, and the event comprises receipt of a slot failure at the first
15 ATM physical interface.

1 104. (Currently Amended) A method of switching between physical interfaces on a
2 device, the method comprising:

3 switching from a first physical interface on the device to a second physical interface on
4 the device based on information in an interface redundancy group, the first physical interface
5 supporting one or more network layer interfaces comprising a virtual circuit established in
6 accordance with a protocol, and wherein the first physical interface is operable for interfacing
7 to a network and the second physical interface is operable for interfacing to the network;

8 wherein the information in the interface redundancy group identifies the first physical
9 interface as a primary interface for the device and the second physical interface as a secondary
10 interface for the device.

1 105. (Currently Amended) A computer program stored on a computer-readable medium
2 for switching between physical interfaces on a device, the computer program comprising
3 instructions that cause a computer to:

4 switch from a first physical interface on the device to a second physical interface on the
5 device based on information in an interface redundancy group, the first physical interface
6 supporting one or more network layer interfaces comprising a virtual circuit established in
7 accordance with a protocol, and wherein the first physical interface is operable for interfacing
8 to a network and the second physical interface is operable for interfacing to the network;

9 wherein the information in the interface redundancy group identifies the first physical
10 interface as a primary interface for the device and the second physical interface as a secondary
11 interface for the device.

1 106. (Currently Amended) An apparatus which switches between physical interfaces,
2 the apparatus comprising:
3 a first physical interface operable for interfacing to a network;
4 a second physical interface operable for interfacing to the network; and
5 a processor which executes instructions to switch from the first physical interface to the
6 second physical interface based on information in an interface redundancy group, the first
7 physical interface supporting one or more network layer interfaces comprising a virtual circuit
8 established in accordance with a protocol;
9 wherein the information in the interface redundancy group identifies the first physical
10 interface as a primary interface for the device and the second physical interface as a secondary
11 interface for the device.
